



# 1<sup>ST</sup> AVENUE MULTI-MODAL CORRIDOR KICK-OFF MEETING

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## City of Council Bluffs

February 27, 2019

# Agenda

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1. Opening Comments – Brandon Garrett
2. Introductions - City Staff, Advisory Committee, and Consultant Team
3. Project History / Background
4. Transit 101 / Emerging Technology
5. Aspirational Projects – Trails, Combined Corridors, and Transit Plazas
6. Green Infrastructure and Urban Design
7. Approach
8. Schedule
9. Advisory Committee Input – Vision / Goals and Dot Exercise

# Opening Comments

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- Brandon Garrett

# Introductions

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- City Staff
- Advisory Committee
- Consultant Team



# Project History / Background

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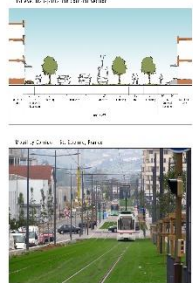
# Project History / Background



**2008 Playland Park Master Plan**  
Setting the Stage for Future  
Redevelopment

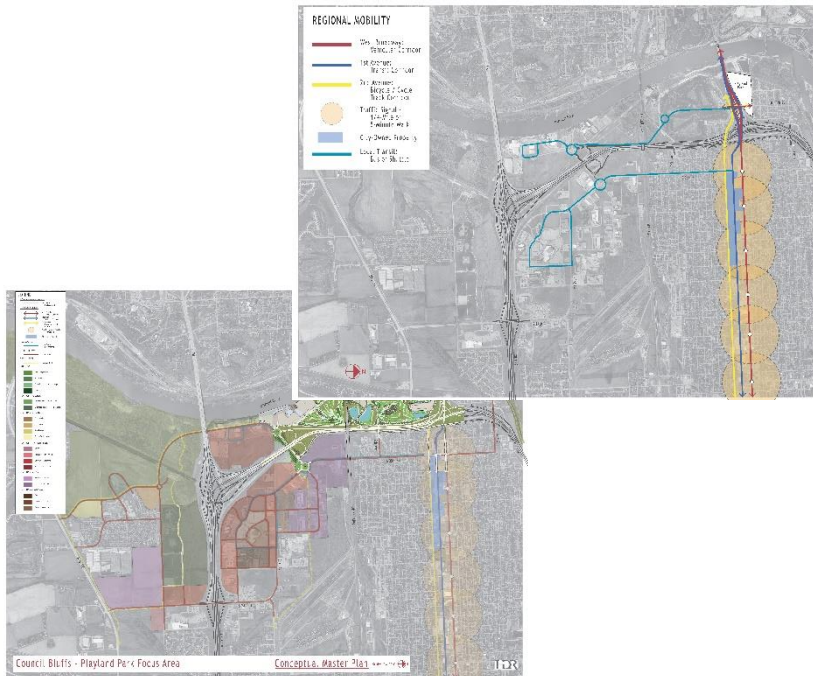


West Broadway Rehabilitation and Redevelopment Project  
City of San Francisco



**2009 West Broadway Corridor Plan**  
The First Study to Examine 1<sup>st</sup> Avenue

# Project History / Background



## 2013 River's Edge / Riverfront Master Plan

Transit as a Catalyst to Unlock West End  
Development Potential

## 2014 River's Edge Master Plan

Development Community  
Confidence in the West End

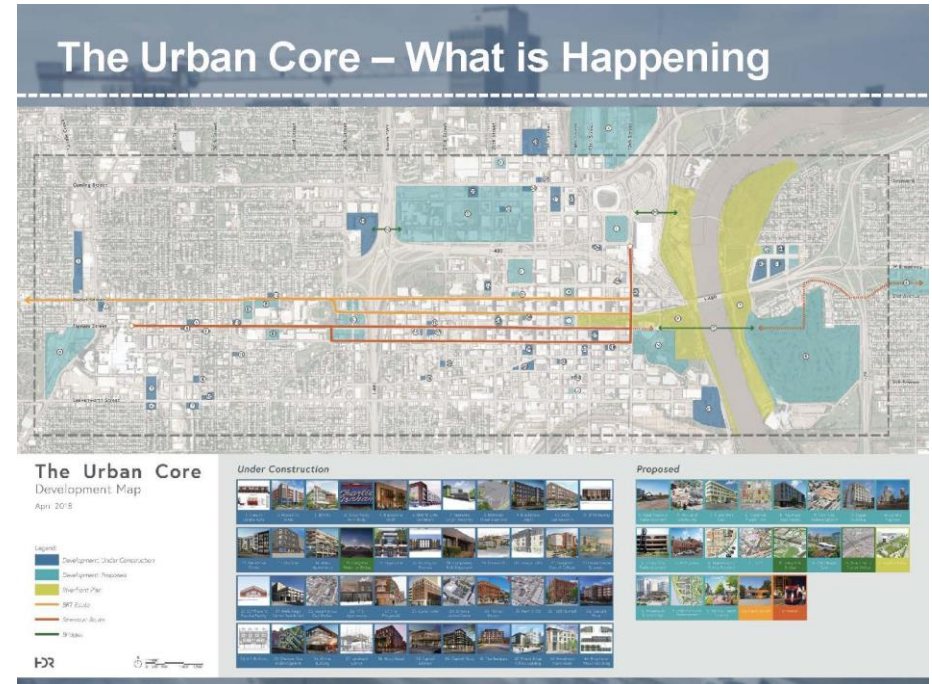
**Corridor Survey Completed**



# Project History / Background



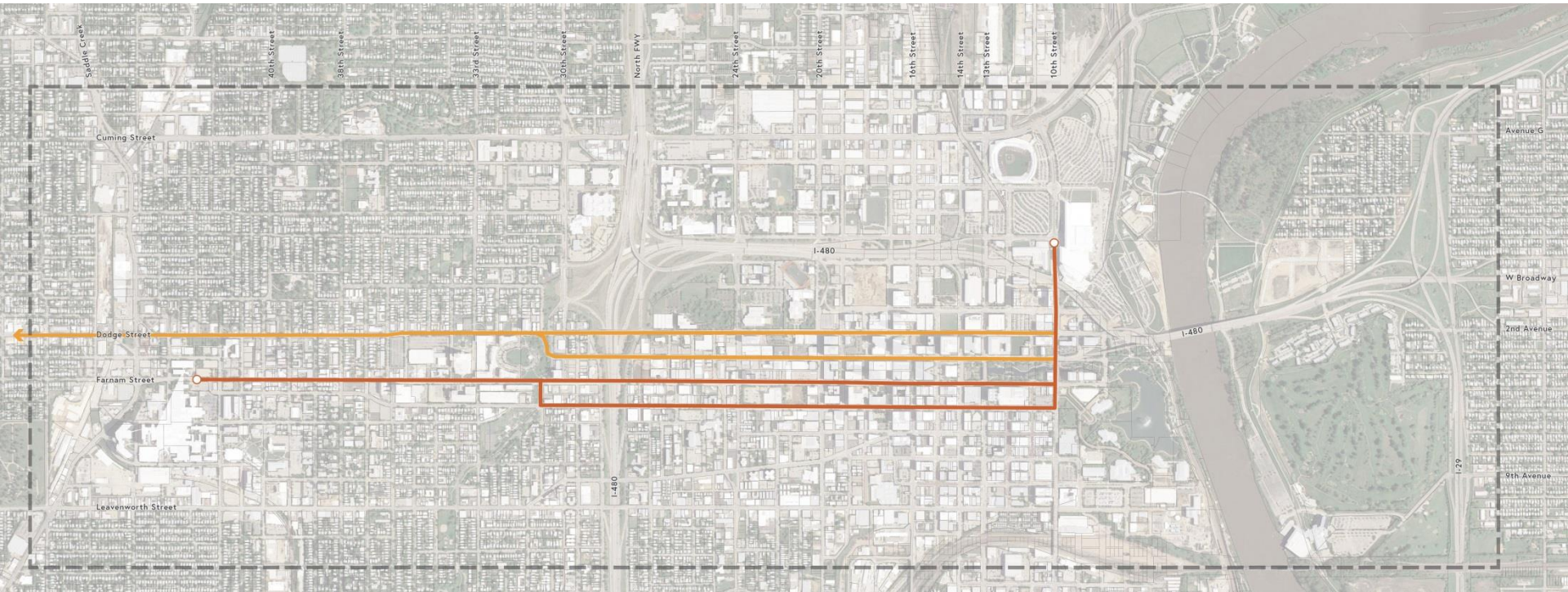
**2015 West Broadway Corridor Master Plan**  
Confirmed Role and Potential  
Section for 1<sup>st</sup> Avenue



**2018 Urban Core Planning**  
World Class Transit Spine / Redevelopment  
Core of the Future

# Project History / Background

## Omaha Alternatives Analysis (BRT/Streetcar)





# Project History / Background

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## Omaha Alternatives Analysis (BRT/Streetcar)



# Project History / Background

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## Council Bluffs Extension

### Missouri River Bike/Ped/Transit Bridge



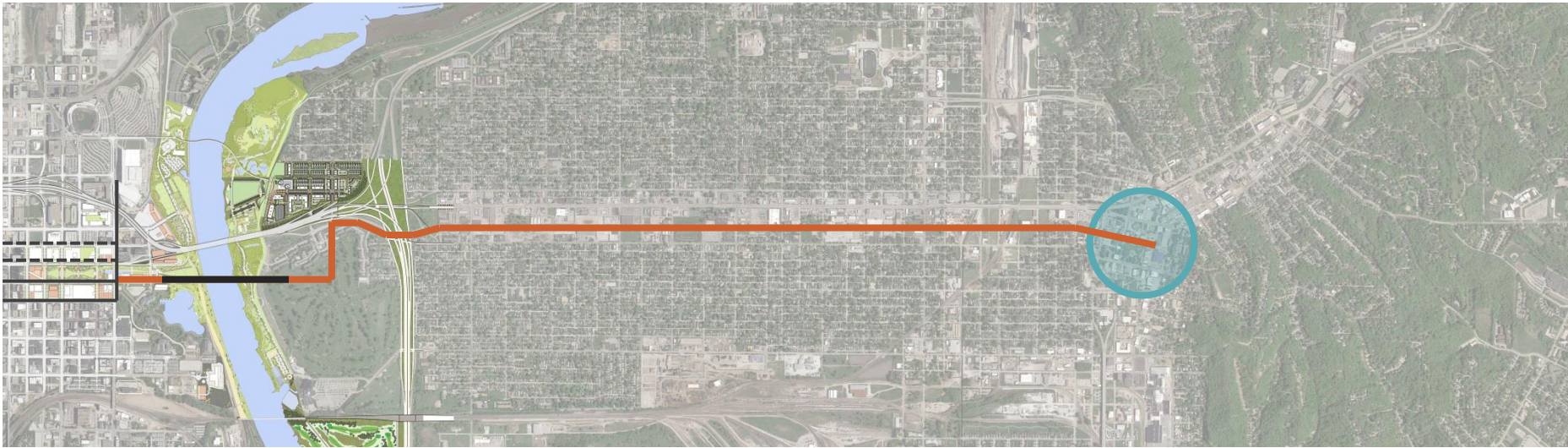


# Project History / Background

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## Council Bluffs Extension

1<sup>st</sup> Avenue Transit Line

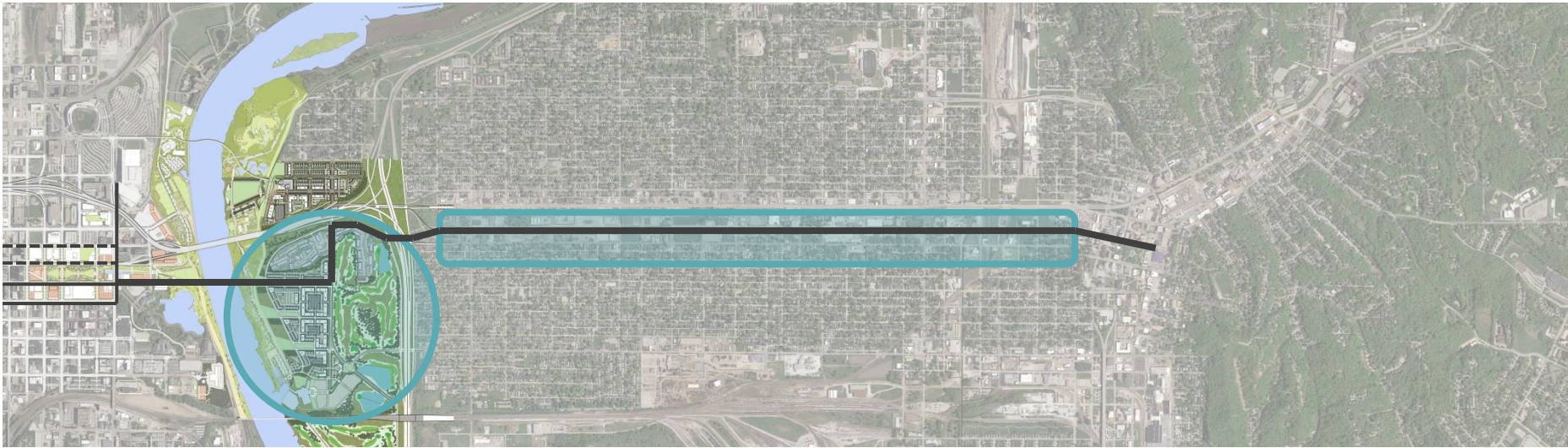


# Project History / Background

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## Transit as a Development Catalyst

### Dodge Park Golf Course & 1<sup>st</sup> Avenue Redevelopment

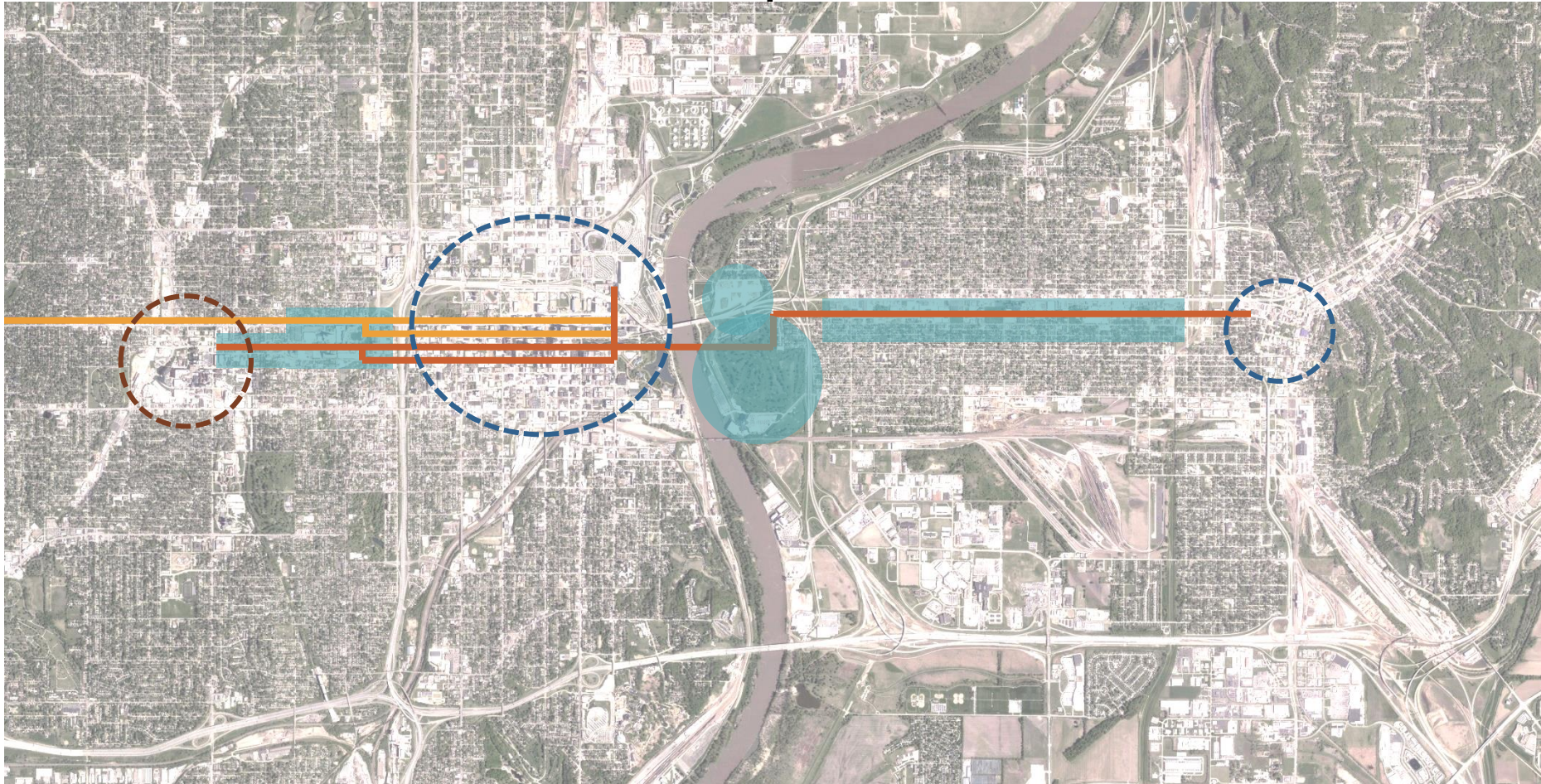




# Project History / Background

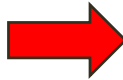
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## The Urban Core Transit Spine



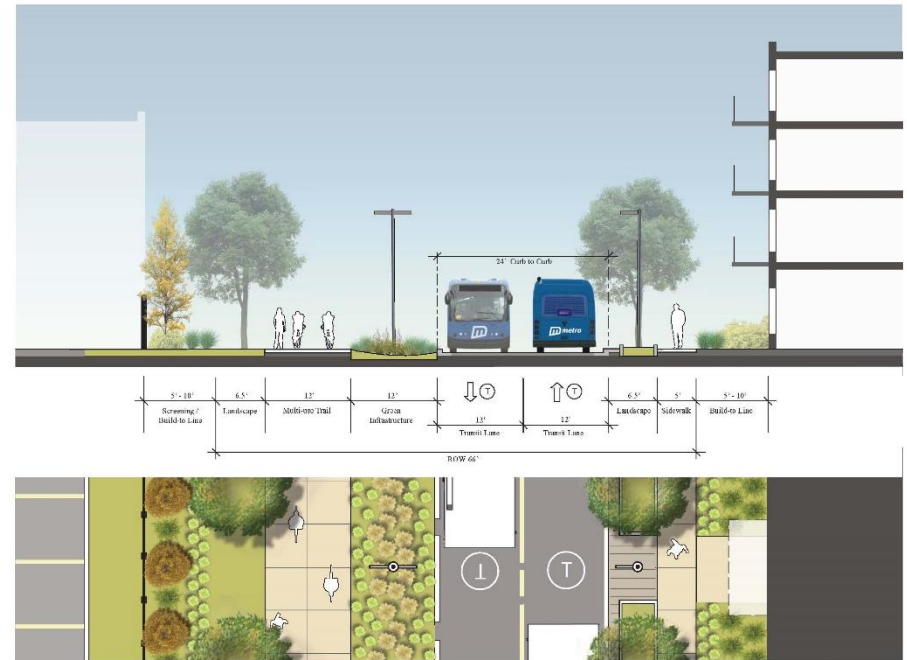


# Project History / Background



Trail - Preserve the Corridor  
Transit - Serve the Corridor

1st Avenue - Transit



# Transit 101 / Emerging Technology

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# Light Rail Transit (LRT)

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- Multi-Billion Dollar Mega Infrastructure Projects
- Serves Commuters
- Multi Vehicle Consists
- Substantial Stations Spaced ½ mile to mile
- Trip Length up to 20 miles
- Typically Dedicated Guideway
- Per Mile Cost \$130-\$200 Million

# Light Rail Transit (LRT)

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# Light Rail Transit (LRT)

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# Light Rail Transit (LRT)



# Streetcar

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- Replaces the Walking Trip
- Circulator Trips Around 1-2 Miles
- Operate in Mixed Traffic
- Single Vehicle Consist
- Minimalist Stations Spaced  $\frac{1}{4}$  to  $\frac{1}{2}$  Mile
- \$60-\$90 Million per Mile



# Streetcar





# Streetcar



# Blurred Rails

- Running Way
- Station Spacing
- Vehicles
- Speeds
- Economic Driver/Mobility
- Infrastructure Investment





# Blurred Rails





# Blurred Rails





# Blurred Rails



# Bus Rapid Transit

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- Rubber Tired Vehicle
- Investment in Stations
- Dedicated Guideway Increases Performance
- Off-Board Fare Collection
- Transit Signal Priority
- Scalable
- \$6-\$30 Million per Mile



# Bus Rapid Transit



# Bus Rapid Transit

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# Bus Rapid Transit





# Bus Rapid Transit





# Micro Transit

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- Modern Version of PRT
- First Mile Last Mile Connections
- Campus Circulator
- 8-12 Passengers per Vehicle
- Driverless and/or Connected
- \$250k Per Vehicle

# Micro Transit

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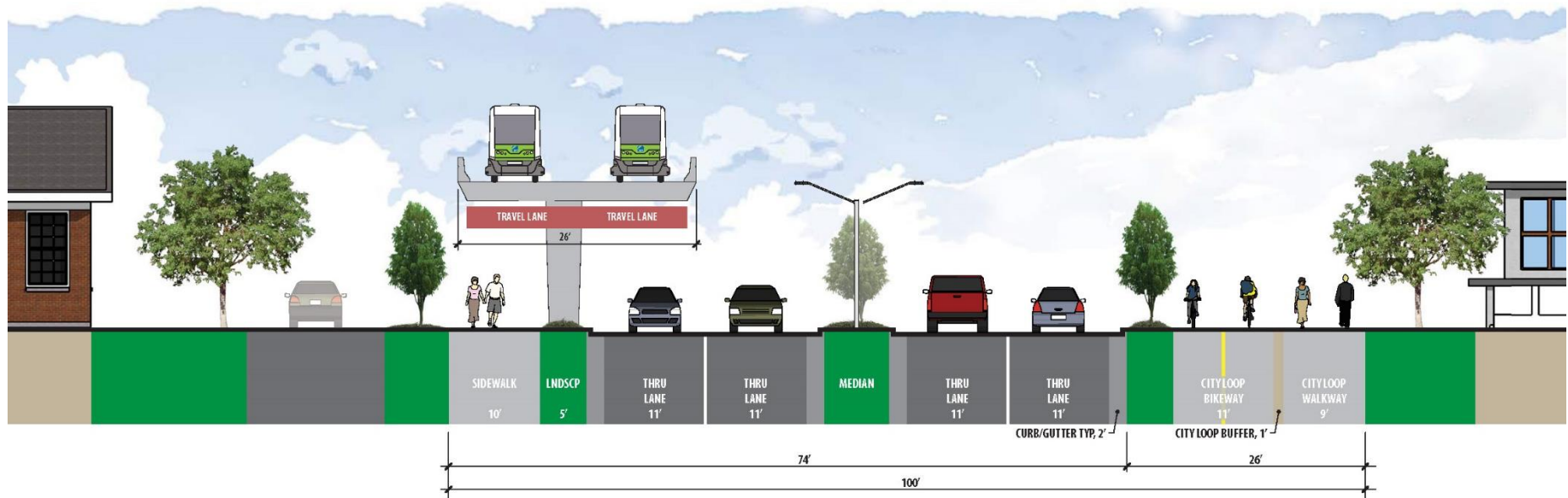


# Micro Transit

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# Micro Transit





# New Technologies

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# New Technologies

- Autonomous Rapid Transit (ART) or Trackless Tram
- Debuted in China in 2017
- Tracks Pavement Markings Similar to early AV Technology
- This Technology struggles with Maintenance





# New Technologies

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- Autonomous Tram or Bus is Not Far Away
- Key is need a Manufacturer to Develop the Technology Platform and Vehicle
- 2018 Siemens Started Testing a Rail Version in Germany
- No US Systems Yet
- Proterra and Daimler are Developments on the Bus Side
- 5 years...10 years



# Aspirational Projects

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- Urban Trails
- Combined Trail and Transit Corridors
- Transit Plazas



# Urban Trails

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# Urban Trails

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- Regional Precedents





## High Trestle Trail – Downtown Madrid, Iowa



## Raccoon River Valley Trail Extension - Waukeez



# Urban Trails

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- Local Precedents



## River's Edge Parkway – Council Bluffs, IA





**chroma** design

# WEST BROADWAY CORRIDOR MASTER PLAN

ADDENDUM 1 - WEST END

SCALE:  
1" = 100'-0"



2.21.2018

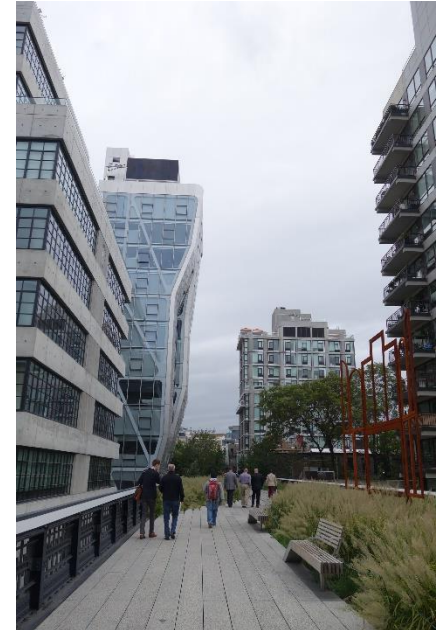
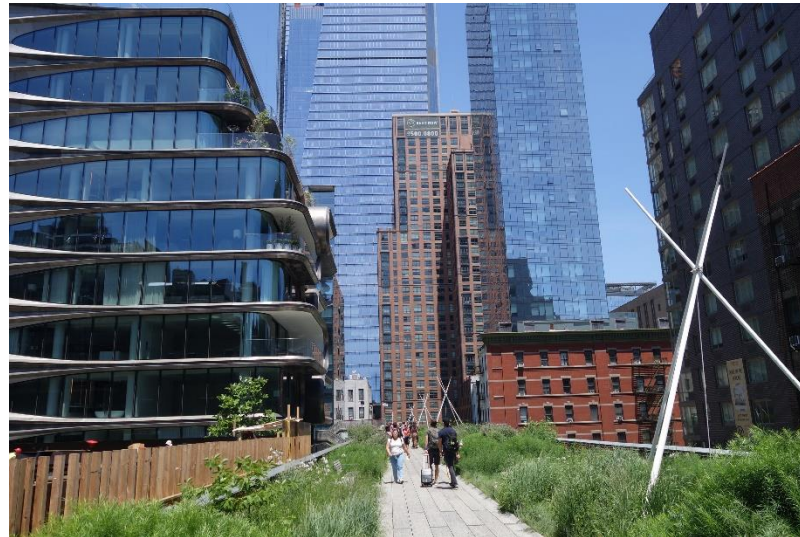
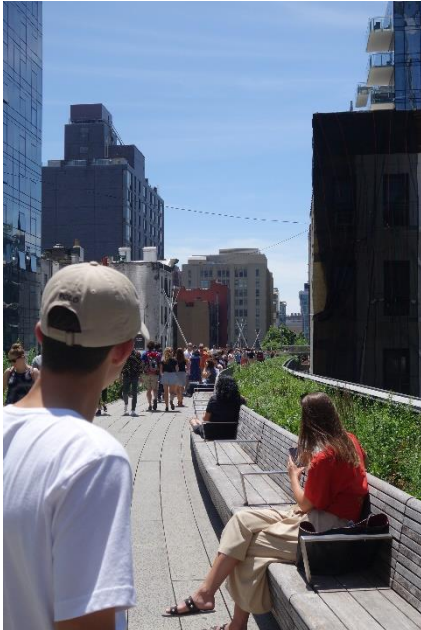
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# Urban Trails

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- National Precedents





## The High Line – New York City, NY





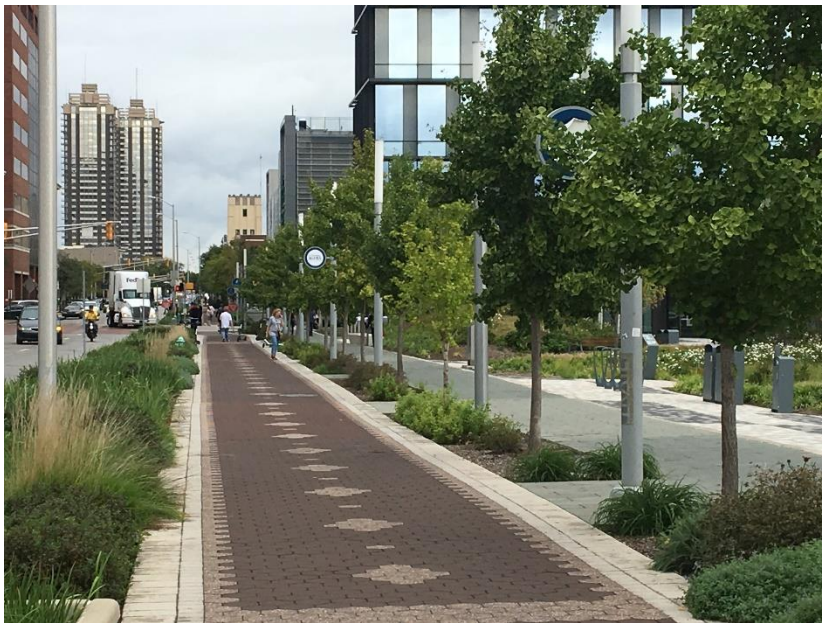
## The 606 – Chicago, Illinois





## Atlanta Beltline – Atlanta, Georgia





Indianapolis Cultural Trail – Indianapolis, Indiana



# Combined Trail and Transit Corridors

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# Combined Trail and Transit Corridors

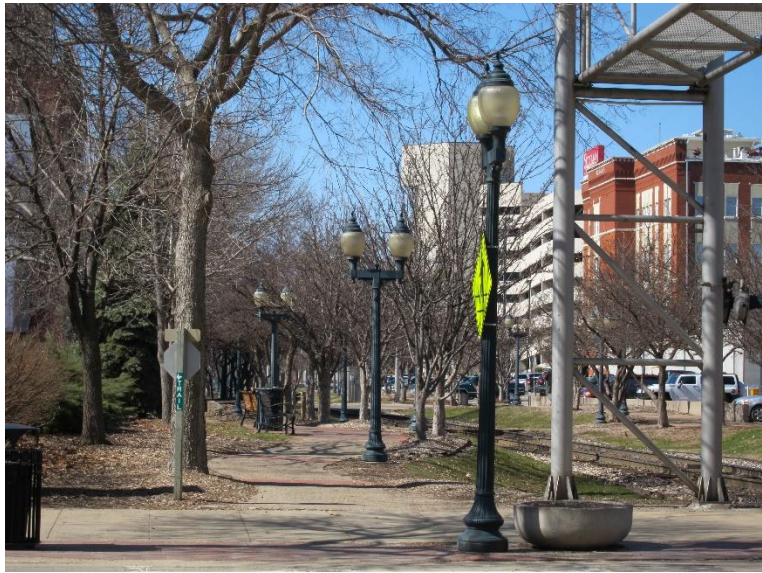
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- Regional Precedents



## Siouxland Trail– Sioux City, Iowa





Cedar Valley Nature Trail– Cedar Rapids, Iowa

# Combined Trail and Transit Corridors

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- National Precedents





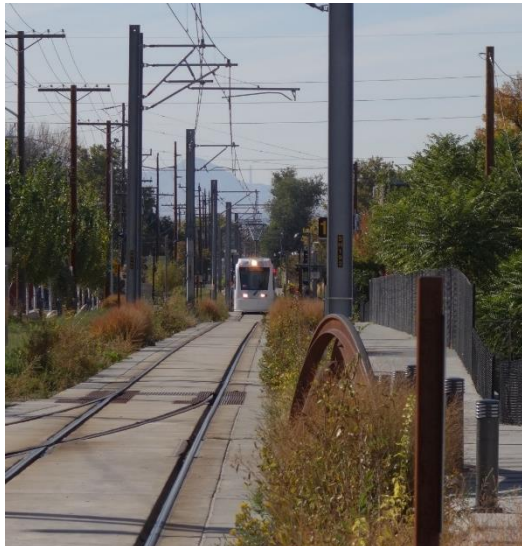
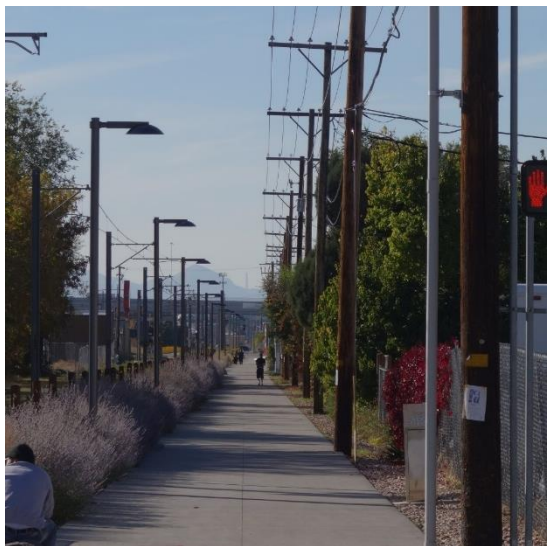
## Charlotte Rail Trail – Charlotte, North Carolina





## South Lake Union Promenade— Seattle, Washington





# Sugar House Streetcar Line

# Transit Plazas

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## Transit Plazas: Christchurch



## Transit Plazas: University of Minnesota





## Transit Plazas: USC





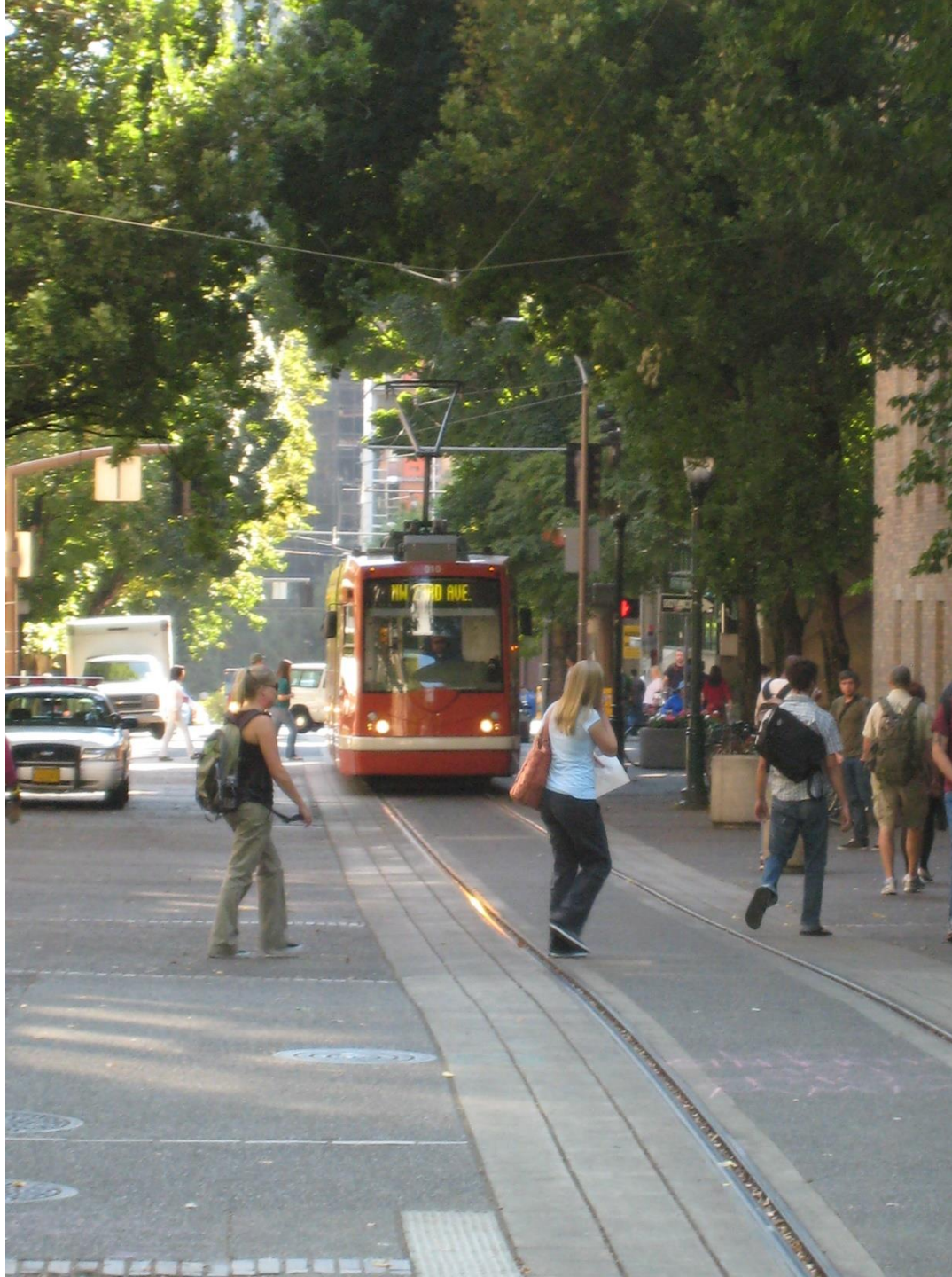
## Transit Plazas: Portland South Waterfront





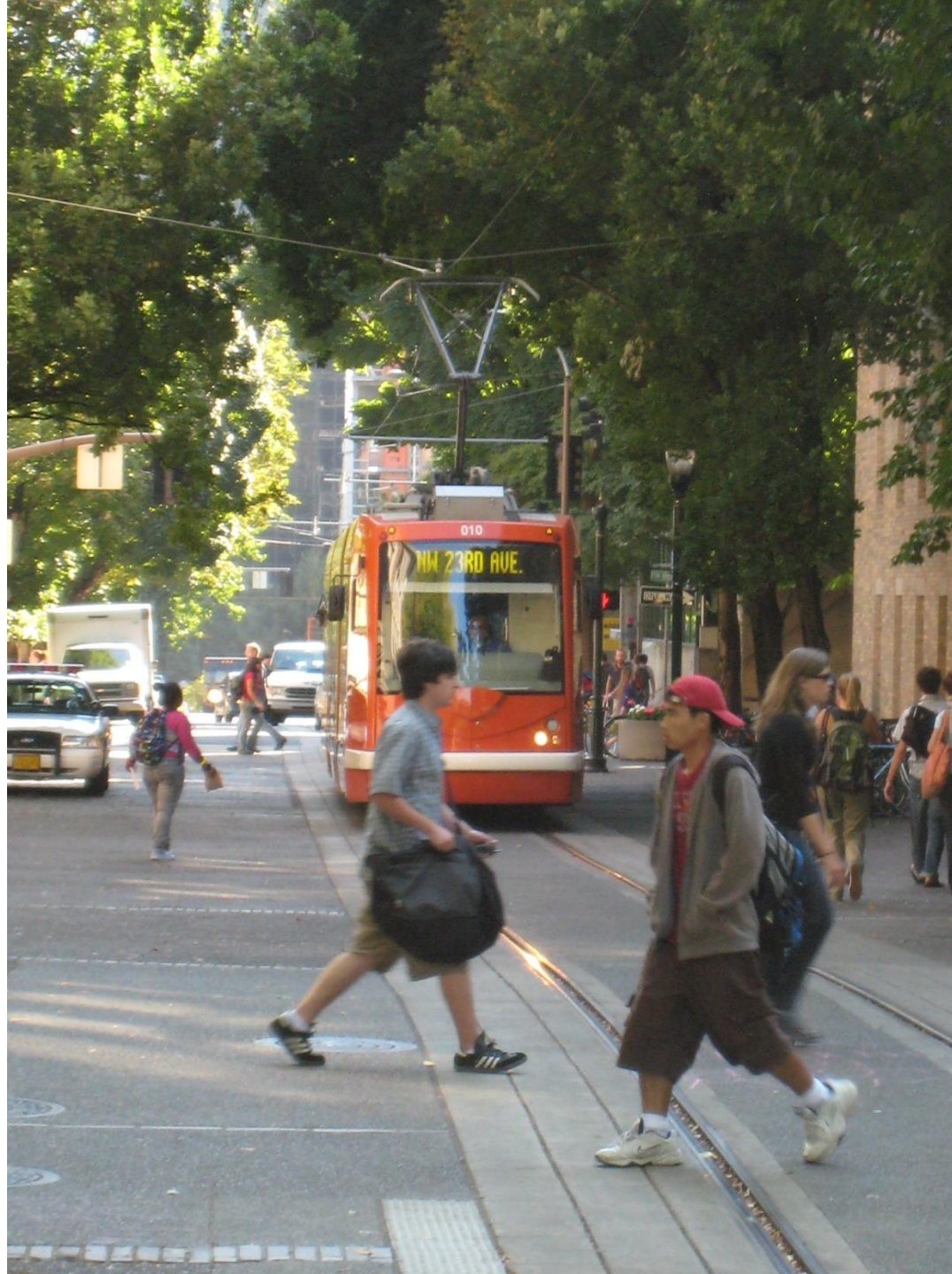
## Transit Plazas: Portland State University















# Green Infrastructure and Urban Design

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# G.I. / Stormwater

## Key Questions

What are we trying to accomplish?

What are our goals?

What is our definition of success/failure?

What landscape aesthetic do we want to achieve?

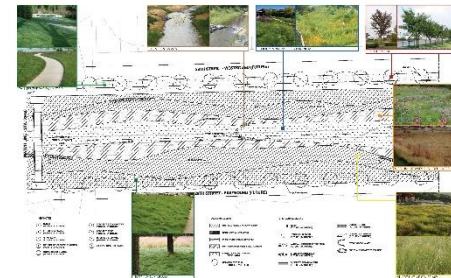
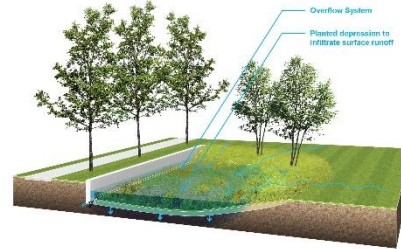
Do we want high maintenance, low maintenance or no maintenance?

How does this align with our goals and/or community expectations?

What about maintenance staff and equipment, are they available or need to be procured?

Will maintenance budget come out of City's budget or will adjacent property owners be assessed?

Conceptual Stormwater BMPs



# Green Infrastructure Stormwater Solutions

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# Urban Design

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Naturalized





Urban





# Urban Design

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Single





# Urban Design

Double





# Urban Design

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Double Urban





Historic





## Surfacing





# Urban Design

Amenities





# Urban Design

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Programmable Space





# Urban Design

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Manicured





# Urban Design

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Naturalized





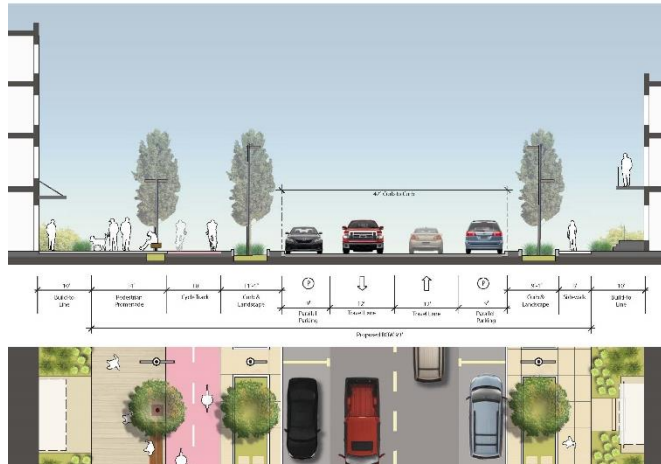
Special Feature / Wow





# Urban Design

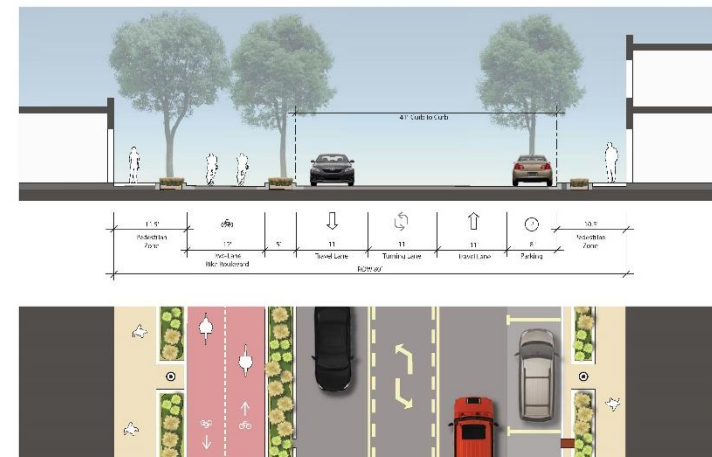
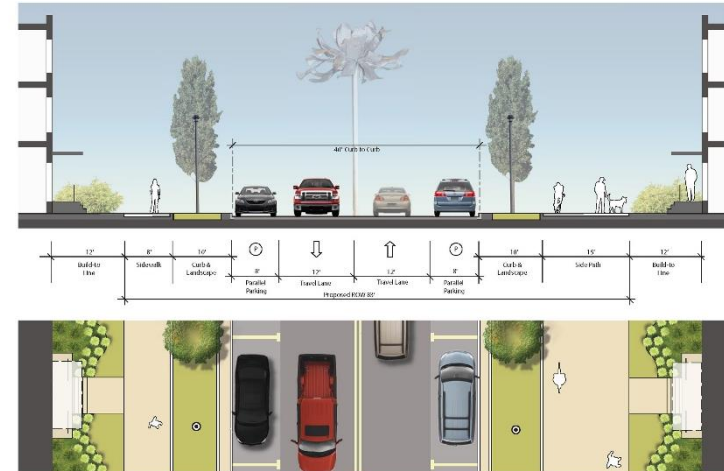
Avenue A



1st Avenue - Transit



Bellevue University Pedestrian Spine - Upper Campus





# Goal



## 1st Avenue - Transit



# Project Approach

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# Project Approach

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- Task 1.0 — Project Management
- Task 1.1 — Kick-Off Meeting with the Client and Key Stakeholders
- Task 1.2 — Study Area Tour
- Task 1.3 — Data Collection and Review
- Task 1.4 — Survey Update
- Task 1.5 — Infrastructure Analysis – Existing Conditions
- Task 1.6 — Data and Base Mapping
- Task 1.7 — Vision Workshop
- Task 1.8 — Specific Interviews
- Task 1.9 — Design Program
- Task 1.10 — 2-Day Design Workshop
- Task 1.11 — City Review and Comment
- Task 1.12 — Workshop Refinement
- Task 1.13 — Cost Estimate/Cost Benefit
- Task 1.14 — Final Planning Level Conceptual Corridor Design
- Task 2.1 — 30% Trail and Green Infrastructure Design
- Task 2.2 — 60% Trail and Green Infrastructure Design
- Task 2.3 — 90% Trail and Green Infrastructure Design
- Task 2.4 — Trail and Green Infrastructure Final Design

# Schedule

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# Advisory Committee Input

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- Vision / Goals
- Dot Exercise /Scroll Maps
  - Green – Opportunity Areas
  - Red – Challenging Areas

## 1st Avenue - Transit



# 1<sup>ST</sup> AVENUE MULTI-MODAL CORRIDOR KICK-OFF MEETING

## Discussion

February 27, 2019